filamentous glands, and on the dorsal surface there are several longitudinal rows of small round glands.

Larva (just hatched).—Elliptical, flat, reddish brown in colour; eyes large, conical, dark brown. Antennæ long, of six joints; joints 3 and 6 the longest and about equal in length. The body ends in two plates, each bearing one long terminal seta and several shorter hairs. The margin of the body is serrated and bears a simple row of rather long hairs. Legs long, slender, the digitules of claw and tarsus long and thin, with slightly expanded ends. Rostral loop not extending to the anal plates.

Hab. São Paulo. On the stems of *Smilax* sp.

Some small parasitic Diptera were bred from the ovisacs of this species.

[To be continued.]

BIBLIOGRAPHICAL NOTICES.

Studies in Fossil Botany. By Dukinfield Henry Scott, M.A., Ph.D., F.R.S., F.L.S., F.G.S., Honorary Keeper of the Jodrell Laboratory, Royal Gardens, Kew. Containing 151 Illustrations. London: Adam and Charles Black, 1900. Pp. xiii, 533.

The author is a distinguished member of the energetic band of workers in palæobotany whose labours have in recent years contributed to throw so much light on many obscure points of the vanished flora of geologic times. Dr. Scott was associated with the closing portion of the long scientific career of the late Professor Williamson, and is well acquainted with the collection brought together by that veteran palæobotanist; therefore it is not surprising that much of the information here presented has been drawn from specimens contained in that collection, now national property, in the Natural History Museum, Cromwell Road.

The volume is founded on a course of lectures given four years ago at University College, Gower Street, under the same title, but entirely recast in accordance with newer information which has been rendered accessible since these lectures were delivered. It is confined to setting out the results of inquiries of chief importance from a botanical standpoint relating to the two subkingdoms of Pteridophytes and Gymnosperms, all considerations of the lower cryptogams and the phanerogams being put aside.

The author explains the difference in the condition of plants preserved by incrustation and petrification—the former being most familiar to those people who visit geological collections, while the second is largely confined to the cabinets of specialists as admitting

of the application of the operations of slicing and polishing. While the plants preserved by incrustation display such characters as the shape of the leaf and venation excellently, the organic structure has practically disappeared, those petrified, on the other hand, showing their minute anatomy to a surprising degree. The details of cell-structure can be made out with considerable certainty, and by painstaking collation of many specimens the entire histology may be determined.

Dr. Scott's plan is to go methodically through the alliances as follows, describing any special structure which may be found in them:—Beginning with the Equisetales, once so grandly developed in the Carboniferous period, though now only represented in the living series by one genus, then taking up the Sphenophyllales, representative of a type of vegetation which has wholly vanished, passing to the Lycopodiales, familiar to recent botanists in the genera *Lycopodium* and *Selaginella*, which are of humble dimensions when compared with their ancestral forms, and then the ferns, which are better represented in the present day than in the foregoing groups. Next in order we have the Cycadofilices, that curiously intermediate group between the Ferns and Cycads, which is only known in a fossil state, coming lastly to the Mesozoic Gymnosperms.

The object of the author is to compare the structure found in these fossil forms with similar structure found in recent plants. Quoting with approval Solms-Laubach's phrase that our object in studying the fossil forms is "the completion of the natural system," Dr. Scott is careful not to bring up any very doubtful specimens, but to keep attention fixed on those specimens which can throw light on the problems presented by these fragmentary remains. It would be impossible, we think, to read this volume with care and fail to gain a very good idea of the organization and the relations of these plants, not only to one another, but also to the existing vegetation. There is one special difficulty which besets the palæobotanist, and that is that fossil genera and species have been founded upon entirely different considerations from those which govern the naming of recent plants, and this, too, from the very nature of things, as a moment's reflection will show. Owing to the state in which these fossils occur, the root, the stem, and the fruit of the same plant have sometimes received generic rank only to be reduced as the result of examination of a large series or from some lucky accident showing the organic connexion of one of these structures to another. It is not surprising, therefore, that palæobotany teems with so-called genera and species which the systematist of recent plants would regard as hopelessly bad, and that much of the work and much of the interest of the present-day palæontologist is devoted to determining the relations of these separated parts.

The numerous drawings, reproduced by various processes, succeed in showing the points desired, mainly in consequence of the care spent in selecting the given specimen to bring out the special

character. We have mentioned that the plants here investigated are those whose internal structure has been preserved, either silicified or calcified; and thus it arises that the methods of anatomic observation are well adapted to the prosecution of this branch of research.

Where praise is due in no unstinted measure it may seem ungracious to note a small blemish; but the question suggests itself, Why should the author continue to write *Lyginodendron Oldhamium* with a capital letter? The form *Oldhamium* is due to earlier writers (instead of the more correct form *oldhamense*); but we find other instances, such as *Cheirostrobus Pettycurensis*, when the same author has correctly written *Medullosa anglica*. These trifling departures from the common usage of botanists do not, of course, really detract from the usefulness of the book, which, regarded from every point of view, is worthy of the author and of his subject.

First Records of British Flowering Plants. Compiled by William A. Clarke. Second Edition, Revised and Corrected. London: West, Newman, & Co., 1900. Pp. xvi, 194.

The first draft of this volume appeared in the 'Journal of Botany' for 1892–96, and it was republished as a separate work in 1897, with additions and corrections and a note on nomenclature. But this edition did not satisfy the author, who has again revised the work, added the actual names used by the old authors cited, and has brought it out in a form which is a great improvement on the last edition.

The work being thus well known to the majority of British botanists, it hardly needs detailed description; but we may cordially welcome its reappearance in its new shape.

MISCELLANEOUS.

On the Dates of Publication of the 'Histoire naturelle générale et particulière des Mollusques terrestres et fluviatiles' and the 'Tableaux systématiques des Animaux mollusques,' by the Barons Férussac and G. P. Deshayes. By C. Davies Sherborn, F.Z.S. &c., and B. B. Woodward, F.L.S. &c.

The exact dates of publication of the parts of these remarkable twin works have long been a source of difficulty for malacologists, and though we have not been able to completely solve the problem, we think that enough information has been brought together to justify publication of the results attained.

The two works were issued together in 42 livr., which appeared between 1819 and 1851, while some portions of the text appear to have been issued in early livraisons of the companion work by the younger Férussac and Alcide d'Orbigny—the 'Hist. nat. . . . . des